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In vivo SCREENING OF TURMERIC (*Curcuma longa*) IN BROILERS CHALLENGED WITH EIMERIAL INFECTION

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AUTHORS' CONTRIBUTIONS

This work was carried out in the Parasitology Laboratory, Department of Zoology, University of Kashmir, J&K, India. Author YJ designed the study, wrote the protocol and wrote the first draft of the manuscript. Authors ST and RAS managed the analyses of the study. Author BAP performed the statistical analysis. All authors read and approved the final manuscript.

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ABSTRACT

The present work was undertaken to evaluate the anticoccidial efficacy of Turmeric (*Curcuma longa*) in comparison to a reference drug Amprolium against experimentally induced *Eimeria* species infection in broiler chicken reared across the Kashmir Valley. Nevertheless rhizomes of Turmeric are effective alternatives to coccidiostats but their use has not been accurately recognized. For this purpose, one day old broiler chicks were purchased from a local market and were randomly divided into 4 groups (Group A- Group D). All the groups except Group D were infected orally with 10000 viable sporulated oocysts of mixed *Eimeria* species. Group A was infected and treated with Turmeric powder at the dose rate of 5 g/L of drinking water, Group B was infected and treated with Amprolium powder at the dose rate of 1.25 g/L of drinking water, Group C (+ve control) was kept as infected and untreated group and Group D (-ve control) was kept as uninfected & untreated. Faecal samples were collected on day "0" before treatment and on 7th, 10th, 14th and 21st day after starting treatment. Both the treatments resulted in decreased clinical signs, lesion score and faecal Oocyst Per Gram (OPG) counts post-treatment as compared to pre-treatment. The results also showed that the chicks having diarrhea during the initial days of infection had normal faeces from 10th day after treatment and onwards. The maximum efficacy of Turmeric@5g/liter of drinking water was observed on day 21 as 99.07% which was comparable to the efficacy of a standard anticoccidial drug Amprolium on the same day as 99.26%, after treatment. Both groups (Turmeric and Amprolium treated) showed a significant difference of efficacy on day 7 with all other days (P<0.05). It was

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